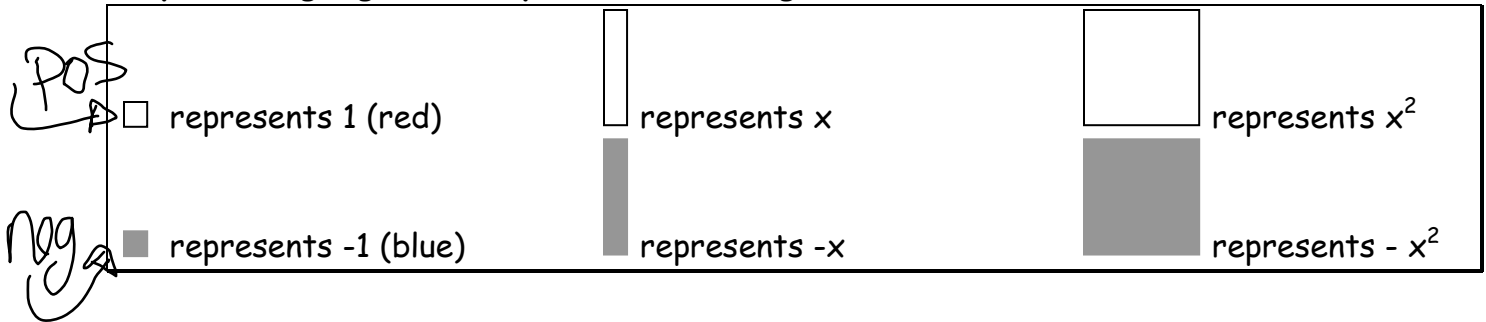
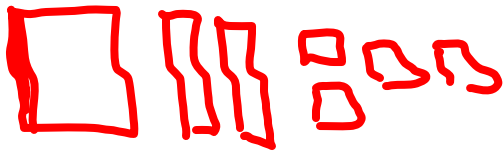


## Introduction to Algebra Tiles

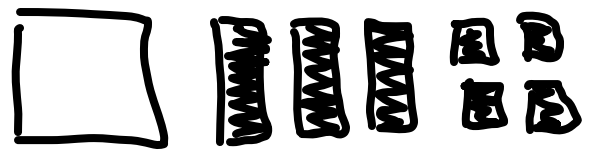
## Representing algebraic expressions with algebra tiles



a)  $x^2 + 2x + 4$

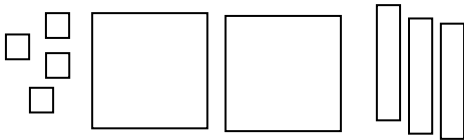


b)  $x^2 - 3x - 4$



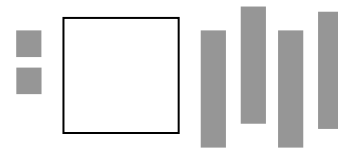
2) Write an algebraic expression that represents the following algebra tiles:

a)



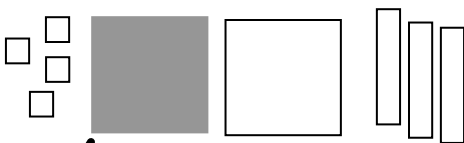
$$= 2x^2 + 3x + 4$$

b)



$$= x^2 - 4x - 2$$

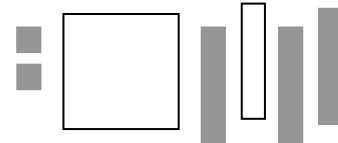
c)



zero  
rule

$$= 3x + 4$$

d)



$$= x^2 - 2x - 2$$

### Multiplying binomials using algebra tiles

3) Multiply the following binomials using algebra tiles, the diagram et then algebraically

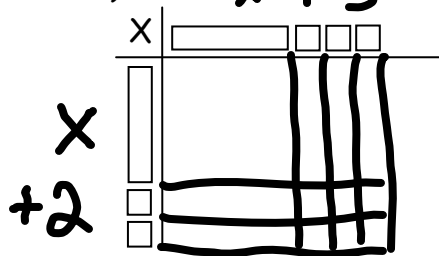
Algebra tiles

Diagram

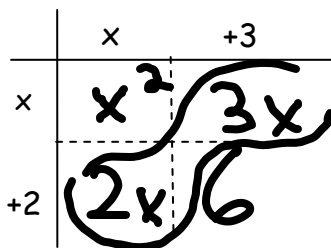
Algebraically

a)

$$x + 3$$



$$= x^2 + 5x + 6$$

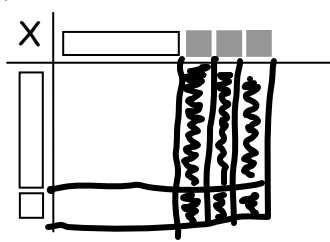


$$= x^2 + 5x + 6$$

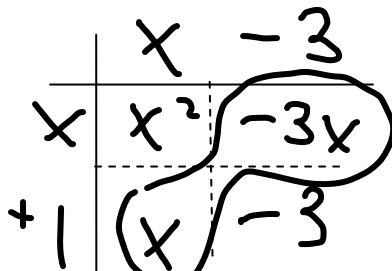
$$(x + 3)(x + 2)$$

$$\begin{aligned} & (x+3)(x+2) \\ &= x^2 + 2x + 3x + 6 \\ &= x^2 + 5x + 6 \end{aligned}$$

b)



$$= x^2 - 2x - 3$$



$$= x^2 - 2x - 3$$

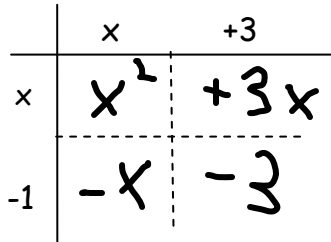
$$= (x-3)(x+1)$$

$$\begin{aligned} &= x^2 + x - 3x - 3 \\ &= x^2 - 2x - 3 \end{aligned}$$

c)



$$= x^2 + 2x - 3$$



$$= x^2 + 2x - 3$$

$$\begin{aligned} &= (x+3)(x-1) \\ &= x^2 + 2x - 3 \end{aligned}$$

### Multiplying $(ax + b)(ax + b)$ or $(ax + b)^2$

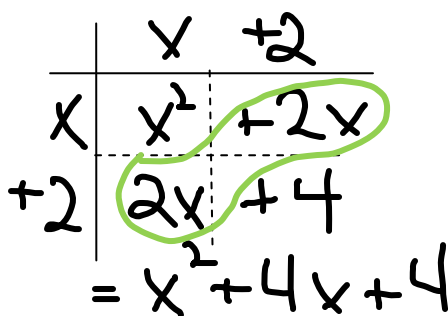
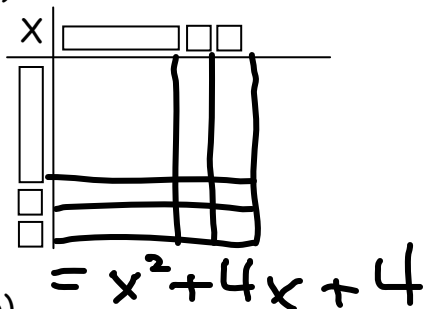
4) Multiply the following binomials using algebra tiles, the diagram et then algebraically

Algebra tiles

Diagram

Algebraically

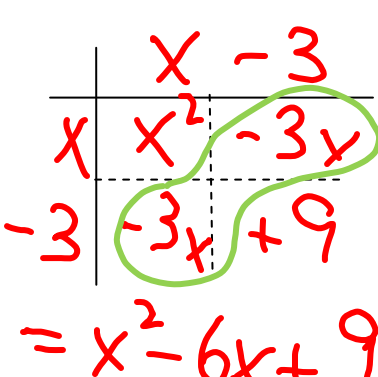
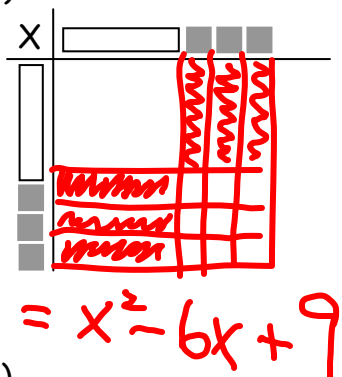
a)



$$= (x+2)(x+2)$$

$$= x^2 + 4x + 4$$

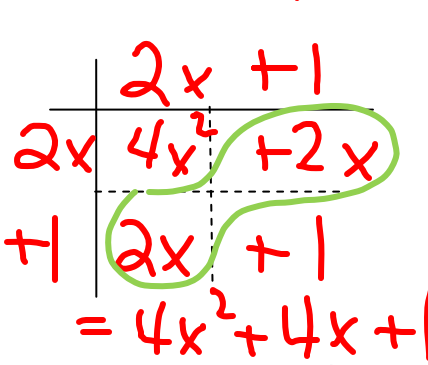
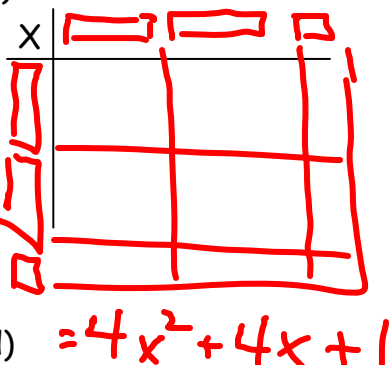
b)



$$= (x-3)(x-3)$$

$$= x^2 - 6x + 9$$

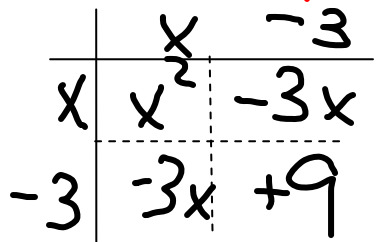
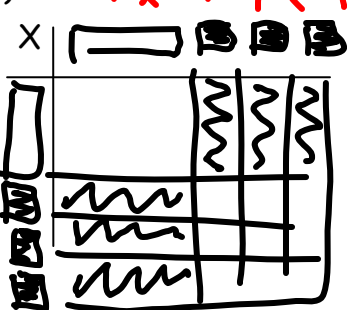
c)



$$= (2x+1)(2x+1)$$

$$= 4x^2 + 4x + 1$$

d)



$$= (x-3)(x-3)$$

5) Find a general formula for the multiplication of :

a)  $(ax + b)(ax + b)$

$$ab \times 2 = \text{middle}$$

$$bb = \text{end}$$

n)  $(ax - b)(ax - b)$

$$a(-b) \times 2 = \text{middle}$$

$$(-b)(-b) = \text{end.}$$